CEPF FINAL PROJECT COMPLETION REPORT

Organization Legal Name:	Cook Islands Natural Heritage Trust
Project Title:	Biodiversity Management and Ecotourism Development on Atiu, Cook Islands
Date of Report:	**31 January 2014**
Report Author and Contact Information	**Gerald McCormack, gerald@nature.gov.ck PO Box 781, Rarotonga, COOK ISLANDS**

CEPF Region: Polynesia-Micronesia

Strategic Direction: 1. Invasive species prevention

Grant Amount: $97,516.00

Project Dates: Jan 1, 2011-Nov 30, 2013

Implementation Partners for this Project (please explain the level of involvement for each partner):

1. Cook Islands Natural Heritage Trust - provided office facilities and the Director was expected to work 210 days but worked in excess of 500 days on this project. He provided all the administration, planning of components and for most components he lead the implementation. The Trust is also providing images for the Kura book.

2. Dr Peter Maddison implemented the insect survey of Atiu and this involved many more days than the 38 for which he was contracted. The identification of the specimens continue using experts from around the world.

3. Atiu Island Council took a keen interest in the components of the project throughout and they made critical inputs in approving the implementation procedures on behalf of the Atiu community.

4. Atiu Villas - Roger Malcolm administered all wages and bounty payments on Atiu. Atiu Villas also provided free accommodation for all shooters and outside trappers; and the supervisor was charged only 50% for his accommodation.A financial contribution of in excess of NZ$13,000.

5. Air Rarotonga - flew all personnel to Atiu free of charge. In excess of 35 returns at NZ$400 each amounted to about NZ$14,000 in total and also FOC they flew all essential cargo.

6. Atiu Community - George Mateariki undertook the on-ground implementation of the myna eradication component, and the swiftlet survey of Vaitupuranga Cave and organized the meetings for the Moko'ero Nui Nature Reserve. Marshall Humphries did the ongoing survey of the swiftlets in the Anatakitaki Cave. The representatives of the eight families enabled the Moko'ero Nui Nature Reserve to be established.

George Mateariki was the main on-the-ground implementer of the myna poisoning and trapping although many people in the community undertook trapping and shooting, and the students assisted in finding myna roosts and nests.

Conservation Impacts

Please explain/describe how your project has contributed to the implementation of the CEPF ecosystem profile.

Please summarize the overall results/impact of your project.

Planned Long-term Impacts - 3+ years (as stated in the approved proposal): The survival of native birds is enhanced on Atiu by the continued exclusion of Ship Rat and by eradication of common myna. Ship rat exclusion is essential for the survival of the Rimatara Lorikeet and the Rarotonga Flycatcher, and myna eradication mainly benefits the Chattering Kingfisher, Cook Islands Fruit-dove and Rimatara Lorikeet.

The survival of all biodiversity on Atiu is enhanced by increased community awareness of the social and economic value of their biodiversity supported by a Kura book and signage, which also enhance the experience of ecotourists.

Actual Progress Toward Long-term Impacts at Completion:

1. The near eradication of the myna (eradication estimated for mid-2014) has made native birds, especially the Cook Islands Fruit-dove and the Chattering Kingfisher much more common. This commonness reflects a greater confidence in open spaces in the absence of myna harassment and probably a small increase in population in the absence of myna harassment during nesting. In the initial stages the reduction of mynas was important in enhancing the breeding success of the 23 Rimatara Lorikeets reintroduced in April 2007 which in 2008 had mynas harassing the only two nests we found. The reduction in mynas has improved peoples' lives by allowing them to ripen fruits in the fields and reducing myna feces in and around houses.

2. The renewed awareness campaign to keep Ship Rat off Atiu is fundamental to the survival of the Rimatara Lorikeet on Atiu (and the Rarotonga Flycatcher). The new signage has been erected in January to cause renewed interest in anticipation the offloading this year of heavy machinery and materials for large infrastructure projects.

3. Atiu is now the only Outer Island with an extensive insect survey and this serves as a baseline to see the impacts of removing the myna bird and to monitor for new invasive insects. While the collection is done and over 400 identified the identification continues as many of the insects have not been previously recorded in the Cook Islands or have been recorded under incorrect names.

4. The agreement to establish the Moko'ero Nui Nature Reserve is the first nature reserve agreement in the Outer Islands. The legal contract has been agreed and the signage has been produced and the reserve will be launched mid-2014.

5. The Kura book has been written by Jenny Elliott although the proofing will not be able to be completed until after April 2014 because after spending so much time on the Atiu project I need to work on other Natural Heritage projects, such as 5-weeks starting on Monday working in England with Prof Fischer on the Cook Islands Biodiversity Database. When the Kura book is published this will form a lasting record of the details of the first transboundary reintroduction in the Pacific islands.

6. Ecotourism has been enhanced by the dramatic increased visibility of the Rimatara Lorikeet, Chattering Kingfisher and Cook Islands Fruit-dove caused by the near

eradication of the Common Myna. And, replacing the abandoned signage component, we have produced a photographic field card for the birds of Atiu.

Planned Short-term Impacts - 1 to 3 years: The book, biodiversity database and signage will be available for residents and tourists. Procedures to detect the arrival or presence of Ship Rat will be in place with public awareness displays. Two community biodiversity reserves are established. Information obtained on the population and breeding status of the Atiu Swiftlet and Rimatara Lorikeet will be available as a basis of decisions on further action. Baseline data on insects will be available to assess the ongoing impacts of removing the common myna.

Actual Progress Toward Short-term Impacts at Completion:
These all transformed into Long-term Impacts and have been dealt with in the above section.

Please provide the following information where relevant:

Hectares Protected: ***Moko'ero Nui Nature Reserve is ~90ha***
Species Conserved: ***4 (Rimatara Lorikeet, CI Fruit-dove, Chattering Kingfisher, Rarotonga Flycatcher)***
Corridors Created: ***nil***

Describe the success or challenges of the project toward achieving its short-term and long-term impact objectives.

The biggest challenge was for the administrator to also be the key implementer. I now know why we should have used half the budget to pay an administrator. Nevertheless, despite this constraint the project achieved many excellent outcomes for biodiversity and ecotourism.
Related to this constraint, the project was revised in August 2013 and extended to the end of November. I extend a special thanks to the CI staff for their patience, support and adaptability.
The most unexpected challenge was developing suitable myna traps for use on Atiu. We initially manufactured six traps as demonstrated by Chris Feare in the Samoa workshop (July 2012) and used on St Helena and elsewhere. These were too cumbersome for use on Atiu and the design made them slow to service. We also experimented with six traps as used in Australia with one-way doors and a holding cage but these rarely caught any birds on Atiu. After several weeks of experimenting the administrator developed a small 4 drop-door trap which was convenient to transport and efficient to service. Fourteen of these traps are still in continuous use on Atiu. The design of these traps will be published after the completion of the project.

Were there any unexpected impacts (positive or negative)?

1. The resilience of the myna (Acridotheres tristis) to eradication was remarkable and to achieve this goal it was necessary for this component to occupy much more time and much more of the funds than expected. The supervisor put more than 50% of his time

into this component and the outcome is very promising - see component analysis below. ***I would like to thank Conservation International for enabling the funds to be reallocated to this component.***

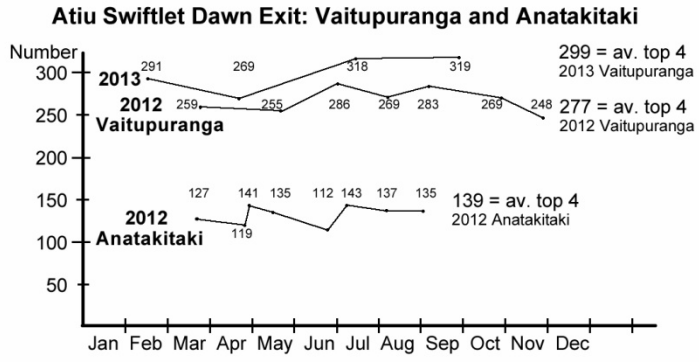
2. Coconut Stick-insect (Graeffea crouanii, Vēvē or Ēē on Atiu) increased dramatically as mynas were reduced to low numbers. This outcome established that the myna is a good biocontrol for the stick-insect, which had not been previously demonstrated and which was doubted by many scientists. The original deal with the island had been that if the myna was eradicated and if after a few years the community decided that the stick-insect was a worse pest than the myna, and we could not find an alternative method of control, then we would reintroduce the myna.
On 1st February 2013 in response to the increased number of stick-insects I prepared a four-page document giving the history of the myna and stick-insect and outlining alternative control methods, including the introduction of an insect that predates exclusively on stick-insects. As of November 2013 the stick-insects have reduced in numbers and residents are happy to wait and see what happens and in the meantime they are very keen that we eradicate the myna.

3. The second unexpected challenge was the lack of local stories suitable for creating visitor information signs around the island.. As a result this component was abandoned in this project although the Tourist Authority is interested in our research and might undertake the component in another form.

Project Components

Project Components: *Please report on results by project component. Reporting should reference specific products/deliverables from the approved project design and other relevant information.*

Component 1 Planned: Atiu Swiftlet population and breeding census to evaluate impacts of Long-legged Land-crab (Cardisoma longipes)
Component 1 Actual at Completion:
The population for Vaitupuranga was from March 2012 to Oct 2013 while Anatakitaki was surveyed from March to Sept 2012. In 2013 the average was 277 in Vaitupuranga and 139 for Anatakitaki.



Previous breeding season counts (1987/88, 1993/94, 1994/95) gave a ratio of 61% in Vaitupurang and 39% in Anatakitaki.
Our ratio of 67% to 33% shows that the relaative number of birds in Anatakitaki is reduced by 38 birds or by 21%. Anatakitaki is heavily used for ecotourism and this is probably the cause of the reduction although how the number of visitors has caused the decline is unknown.
Breeding season counts were not undertaken because it was decided that without undertaking a major construction it was unsafe to enter the cave.
A few Discoplax longipes (formerly Cardisoma longipes) were recorded in Anatakitaki although none were seen interfering with nests. They were not removed because their effect on the swiftlet is not understood.

Component 2 Planned: Establish Anatakitaki Nature Reserve.
Component 2 Actual at Completion:
This component was abandoned when it was realized that the landowners did not want to make the location of the cave more obvious because it would enable visitors to find the cave without a guide.

Component 3 Planned: Establish a Leeward Forest Reserve to enhance local awareness of the biodiversity value to the Atiu coastal forest.
Component 3 Actual at Completion:
Three meetings were held with the landowners and they agreed to establish the reserve using the proposed legal agreement and they approved the main billboard which is shown below. The reserve will be launched around mid-2014 when the project manager returns from England.

Moko'ero Nui Nature Reserve

The reserve

The **Moko'ero Nui Nature Reserve** *(shaded on the map)* was created in 2014 with a declaration signed by representatives of the landowner families.

The reserve celebrates and conserves a major portion of the leeward coastal forest of Ātiu, which is one of the most pristine coastal forests in tropical Polynesia.

The landowners are conserving the biodiversity of this forest for the enjoyment and benefit of all the residents and visitors of Ātiu.

The reserve includes the coastal part of the eight sections from Orovaru in the north to Vai Piake in the south from the cliff/*uru'atete* to a distance of 300 metres inland of the coastal road.

The landowners have declared that they will discuss and cooperate with the other families if they wish to make any changes on their section that will significantly alter the landscape. The landscape is the land and the forest, including all of the native plants and animals.

Leeward coastal forest

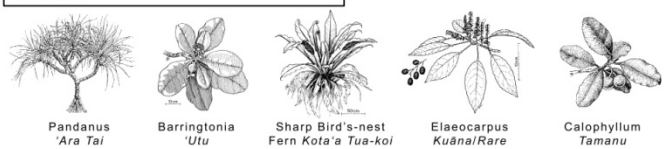
The outer forest near the cliff is dominated by Pisonia (*Pukatea*), Pandanus (*'Ara Tai*) with some Guettarda (*'Ano*) and Ironwood (*Toa*).

The central leeward forest, on both sides of the road, is dominated by massive trees of Barringtonia/Fish-poison Tree (*'Utu*) and Lantern Tree (*Puka Tavovo*).

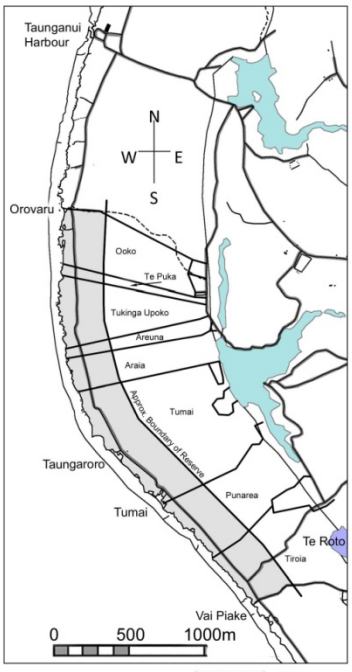
Other important trees in the central leeward forest are Elaeocarpus (*Kuāna/Rare*), Mountain Lantern (*Puka Turina*), Guettarda (*'Ano*), Pandanus (*'Ara Tai*) and Calophyllum (*Tamanu*). Some Coconut Palms (*Nū*) have been planted along the road.

The ground cover is mainly the Sharp Bird's-nest Fern (*Kota'a Tua-koi*, *Asplenium australasicum*).

The native birds in the forest are: Pacific Pigeon (*Rupe*), Cook Islands Fruit-dove (*Kūkupa*) and Chattering Kingfisher (*Ngōtare*) with the Pacific Reef-Heron (*Kōtuku*) hunting along the road. The White-tailed Tropicbird (*Pīrake*) is also recorded here.



Pandanus *'Ara Tai* | Barringtonia *'Utu* | Sharp Bird's-nest Fern *Kota'a Tua-koi* | Elaeocarpus *Kuāna/Rare* | Calophyllum *Tamanu*



Component 4 Planned: Rimatara Lorikeet population census to evaluate the success of the reintroduction program. As of revision - mainly funded by World Parrot Trust.

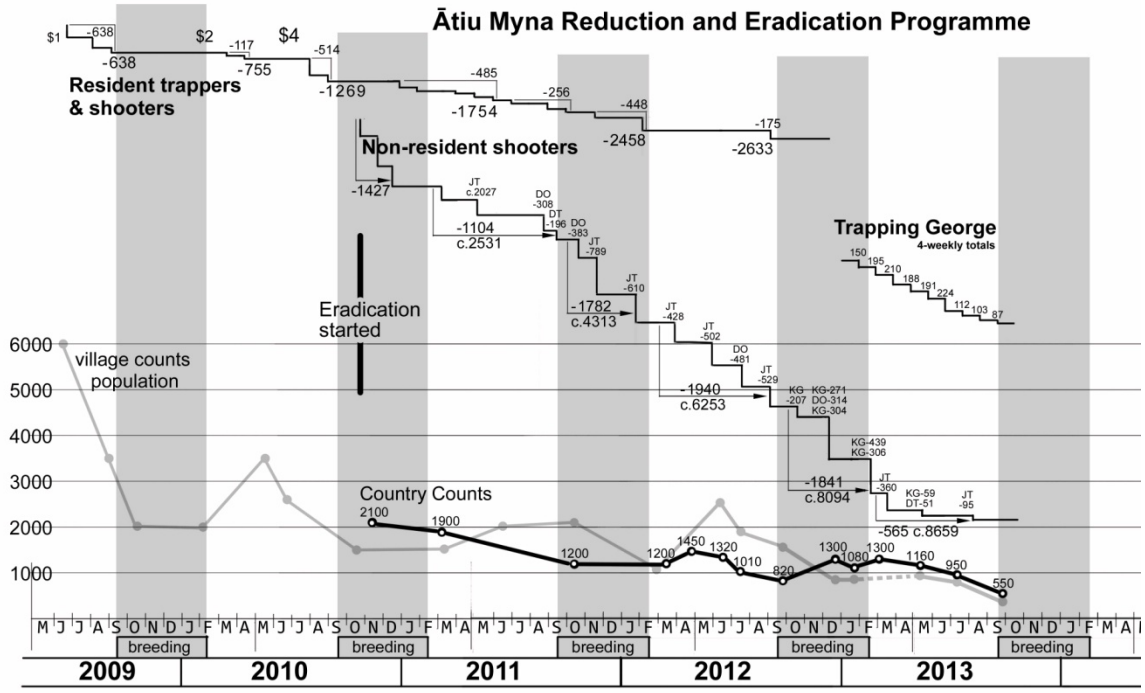
Component 4 Actual at Completion:

The Rimatara Lorikeet was surveyed 10-18th May 2013 by the supervisor and an assistant. Roads served as transects to cover all sectors of the inland with a total of 71 birds detected within a 100m transect band. This is many more birds than have been recorded previously but we do not have a way to quantify the number other than to estimate that there are in excess of 500 lorikeets and demonstrate that they are widely distributed throughout the inland.

A repeat survey will be undertaken in May this year and we hope that this will give us a better means of quantifying the population.

Component 5 Planned: Eradication of Common Myna thereby reducing negative impacts on the small population of reintroduced Rimatara Lorikeet

Component 5 Actual at Completion:



This was the largest component of the project because the myna proved far more resilient to eradication than expected. We started with Starlicide poisoning in June 2009 and when this proved ineffective we complemented it with professional shooters from October 2010, and in January 2013 poisoning was replaced with trapping using decoy-traps designed by the supervisor.

As a result of this persistent effort the number of myna on Atiu in November 2013 was estimated to be 200 adults. And although they are breeding (Sept-Feb) the continued trapping and shooting is holding the numbers of adults and juveniles to about 200. We hope to have them eradicated by mid-year.

Although there was much innovation in this component these will not be compiled into a report until the mynas have been eradicated.

Component 6 Planned: Publish one book on the Kura to give a greater appreciation of this bird by visitors and residents. Develop the user interface for the national online Biodiversity Database which is the most up-to-date source of species information for residents and tourists.

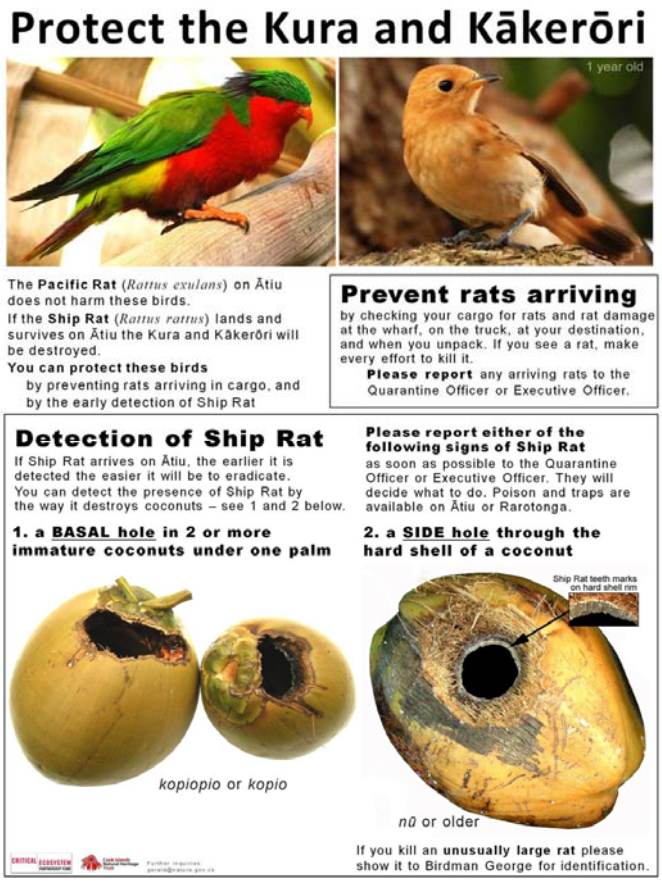
Component 6 Actual at Completion:

A writer, Jenny Elliott was commissioned to prepare a draft for this book and that has been produced. Unfortunately the heavy workload of the supervisor with this project and over the next few weeks working in England on the Cook Islands biodiversity database (formerly a component of this project) means that the Kura book will not be completed until later this year. The layout and publication costs will be covered by the Natural Heritage Trust.

Component 7 Planned: Ship Rat exclusion awareness and emergency system

Component 7 Actual at Completion:

New awareness billboards and posters were produced (see below) and erected on Atiu. An emergency supply of 100 rat traps, Talon rodenticide and dispensers have been established on Rarotonga. Past experience has shown that rat poison and traps left on Atiu were given to residents and were not available for an emergency response to a rat incursion - hence the emergency supplies are being maintained on Rarotonga with the Natural Heritage Trust.



Component 8 Planned: Interpretative signage to enhance access to biodiversity by visitors to encourage ecotourism

Component 8 Actual at Completion:

This component was dropped because of the amount of unexpected work required on the myna eradication component and the lack of suitable local stories. nevertheless, the Tourist Authority is using the initial research to see if it can implement a somewhat similar project in the future. They have done some basic directional signposting, which was also been raised under this component in the initial project proposal.

To support ecotourism a new component was developed which produced a 2-sided photographic field card to the birds of Atiu - see below

Component 9 Planned: Invasive insects survey to establish baseline for evaluating changes brought about by myna eradication, which was introduced in 1916 as an insect biocontrol

Component 9 Actual at Completion:

An extensive collection of insects on Atiu was made 5-11 October 2011 and they are preserved in Auckland. More than 400 have been identified and this activity is continuing. The identifications involve experts all over the world and, while it will never be complete, we expect more than 70% of the insects to be identified to species level by the end of 2014.

In addition to the collection of specimens about 500 species have been photographed, although only 34 species have images edited for the online database. The editing of

Cook Islands plants and animals is an ongoing process within the Natural Heritage Trust.

Were any components unrealized? If so, how has this affected the overall impact of the project?

The only component that made no progress was the establishment of the Anatakitaki reserve and this was because the landowners changed their minds and decided to keep the location of the cave less public. This does not affect the overall impact of the project because this endemic Atiu Swiftlet is fully protected in the Vaitupuranga cave.

Several components still have a way to go, which is not surprising considering the size and difficulty of the components. However, in all cases, good progress was made under this programme and the significant unfinished components will be continued by the Natural Heritage Trust - for example, myna eradication, insect identification, opening of Leeward Forest Reserve and publication of the Kura book.

Please describe and submit (electronically if possible) any tools, products, or methodologies that resulted from this project or contributed to the results.

I have inserted examples of the awareness materials produced and will not have time to submit these as separate publications until I return from working in England in late March, and other component outputs will not be available until late this year as discussed under the component sections above.
Probably the most useful outcome of the project to other people was the development of a new myna trap which proved very portable and very efficient to service at night. When time permits this will be written up as a separate publication.

Lessons Learned

Describe any lessons learned during the design and implementation of the project, as well as any related to organizational development and capacity building. Consider lessons that would inform projects designed or implemented by your organization or others, as well as lessons that might be considered by the global conservation community.

Project Design Process: (aspects of the project design that contributed to its success/shortcomings)

The project manager was also the main implementer in that he designed and modified each component as they unfolded, and not having a financial manager proved a major problem. I never imagined that there would be so much administration. My experience with the earlier small grant of USD19,000 prepared me poorly for the heavy ongoing administration required for a full grant. Even now administration is taking precedence over implementation.

Project Implementation: (aspects of the project execution that contributed to its success/shortcomings)

Implementing most components using Cook Islands residents enabled much capacity building. For example, we have now among the most experienced myna poisoners, myna trappers and myna shooters in the world
It also means that the components are part of an ongoing process and while several components did not reach their expected outcome they are ongoing and will be completed in due course by the Natural Heritage Trust.

Other lessons learned relevant to conservation community:
Nil.

Additional Funding

Provide details of any additional funding that supported this project and any funding secured for the project, organization, or the region, as a result of the CEPF investment in this project.

Donor	Funding type*	Amount	Notes
Air Rarotonga	A	NZ$14,000	c.35x rtn @ NZ$400 flights
Air Villas	A	NZ$13,000	c.20wk x7 @ $90 accommodation
World Parrot Trust	A	NZ$3,517	for Kura survey
Natural Heritage Trust	A	NZ$13,376	various payments

Additional funding should be reported using the following categories:

A *Project co-financing (Other donors or your organization contribute to the direct costs of this project)*

B *Grantee and Partner leveraging (Other donors contribute to your organization or a partner organization as a direct result of successes with this CEPF funded project.)*

C *Regional/Portfolio leveraging (Other donors make large investments in a region because of CEPF investment or successes related to this project.)*

Sustainability/Replicability

Summarize the success or challenge in achieving planned sustainability or replicability of project components or results.

Implementing the components on Atiu was all the personnel could hope for in the time available. Some components such as the myna eradication techniques, Ship Rat exclusion, and small nature reserves could be replicated on other islands.

Summarize any unplanned sustainability or replicability achieved.

Nil

Safeguard Policy Assessment

Provide a summary of the implementation of any required action toward the environmental and social safeguard policies within the project.

Nil.

Additional Comments/Recommendations

Nil.

Information Sharing and CEPF Policy

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned, and results. Final project completion reports are made available on our Web site, www.cepf.net, and publicized in our newsletter and other communications.

Please include your full contact details below:

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*****If your grant has an end date other than JUNE 30, please complete the tables on the following pages*****

Performance Tracking Report Addendum

CEPF Global Targets

(Enter Grant Term)

Provide a numerical amount and brief description of the results achieved by your grant.
Please respond to only those questions that are relevant to your project.

Project Results	Is this question relevant?	If yes, provide your numerical response for results achieved during the annual period.	Provide your numerical response for project from inception of CEPF support to date.	Describe the principal results achieved from July 1, 2007 to June 30, 2008. (Attach annexes if necessary)
1. Did your project strengthen management of a protected area guided by a sustainable management plan? Please indicate number of hectares improved.				Please also include name of the protected area(s). If more than one, please include the number of hectares strengthened for each one.
2. How many hectares of new and/or expanded protected areas did your project help establish through a legal declaration or community agreement?				Please also include name of the protected area. If more than one, please include the number of hectares strengthened for each one.
3. Did your project strengthen biodiversity conservation and/or natural resources management inside a key biodiversity area identified in the CEPF ecosystem profile? If so, please indicate how many hectares.				
4. Did your project effectively introduce or strengthen biodiversity conservation in management practices outside protected areas? If so, please indicate how many hectares.				
5. If your project promotes the sustainable use of natural resources, how many local communities accrued tangible socioeconomic benefits? Please complete Table 1below.				

If you answered yes to question 5, please complete the following table

Table 1. Socioeconomic Benefits to Target Communities

Please complete this table if your project provided concrete socioeconomic benefits to local communities. List the name of each community in column one. In the subsequent columns under Community Characteristics and Nature of Socioeconomic Benefit, place an X in all relevant boxes. In the bottom row, provide the totals of the Xs for each column.

Name of Community	Community Characteristics								Nature of Socioeconomic Benefit												
									Increased Income due to:												
	Small landowners	Subsistence economy	Indigenous/ ethnic peoples	Pastoralists/nomadic peoples	Recent migrants	Urban communities	Communities falling below the poverty rate	Other	Adoption of sustainable natural resources management practices	Ecotourism revenues	Park management activities	Payment for environmental services	Increased food security due to the adoption of sustainable fishing, hunting, or agricultural practices	More secure access to water resources	Improved tenure in land or other natural resource due to titling, reduction of colonization, etc.	Reduced risk of natural disasters (fires, landslides, flooding, etc)	More secure sources of energy	Increased access to public services, such as education, health, or credit	Improved use of traditional knowledge for environmental management	More participatory decision-making due to strengthened civil society and governance.	Other
Total																					

If you marked "Other", please provide detail on the nature of the Community Characteristic and Socioeconomic Benefit: